

What is Claimed Is:

1. A hybrid circuit for bidirectional communication over a communication line, the hybrid circuit directing a transmit signal inputted at an input line to the communication line and directing a receive signal received on the communication line to an output line different to the input line, the input line and the output line being coupled with a primary side of a transformer, the secondary side of the transformer being coupled with the communication line and the primary side of the transformer comprising two coils with a first terminal and a second terminal respectively, the coils being connected in series via a middle impedance arranged between the first terminals of the coils and the input line being coupled with the second terminals of the coils, wherein a first output terminal of the output line is connected via a first impedance to a first terminal of the input line and via a second impedance to the first terminal of the second coil and a second terminal of the output line is connected via a third impedance to the second terminal of the input line and via a fourth impedance to the first terminal of the first coil.
2. The hybrid circuit of Claim 1, in which a first terminal of the input line is coupled via a fifth impedance with the second terminal of the first coil and a second terminal of the input line is coupled via a sixth impedance with the second terminal of the second coil.
3. The hybrid circuit of Claim 1, in which the first terminal of the input line is coupled via a seventh impedance with the first impedance and the second terminal of the first coil and the second terminal of the input line is coupled via an eighth impedance with the third impedance and the second terminal of the second coil.
4. The hybrid circuit of Claim 1, in which the magnitude of the middle impedance is substantially smaller than the magnitude of the first and third impedance, or the second and fourth impedance, or the first, second, third and fourth impedance.

5. The hybrid circuit of Claim 1, in which the first impedance is equal to the third impedance.

6. The hybrid circuit of Claim 1, in which the second impedance is equal to the fourth impedance.

7. The hybrid circuit of Claim 2, in which the fifth impedance is equal to the sixth impedance.

8. The hybrid circuit of Claim 3, in which the seventh impedance is equal to the eighth impedance.

9. The hybrid circuit of Claim 1, in which the receive signal is received in a receiving frequency range and the impedance value of the middle impedance in the receiving frequency range is substantially identical to the complex conjugate of the communication line impedance in the receiving frequency range taking into account the transforming ratio of the transformer.

10. The hybrid circuit of Claim 2, in which the receive signal is received in a receiving frequency range and the impedance value of the serial combination of the middle impedance, the fifth impedance and the sixth impedance in the receiving frequency range is substantially identical to the complex conjugate of the communication line impedance in the receiving frequency range taking into account the transforming ratio of the transformer.

11. The hybrid circuit of Claim 3, in which the receive signal is received in a receiving frequency range and the impedance value of the serial combination of the middle impedance, the seventh impedance and the eighth impedance in the receiving frequency range is substantially identical to the complex conjugate of the communication line impedance in the receiving frequency range taking into account the transforming ratio of the transformer.